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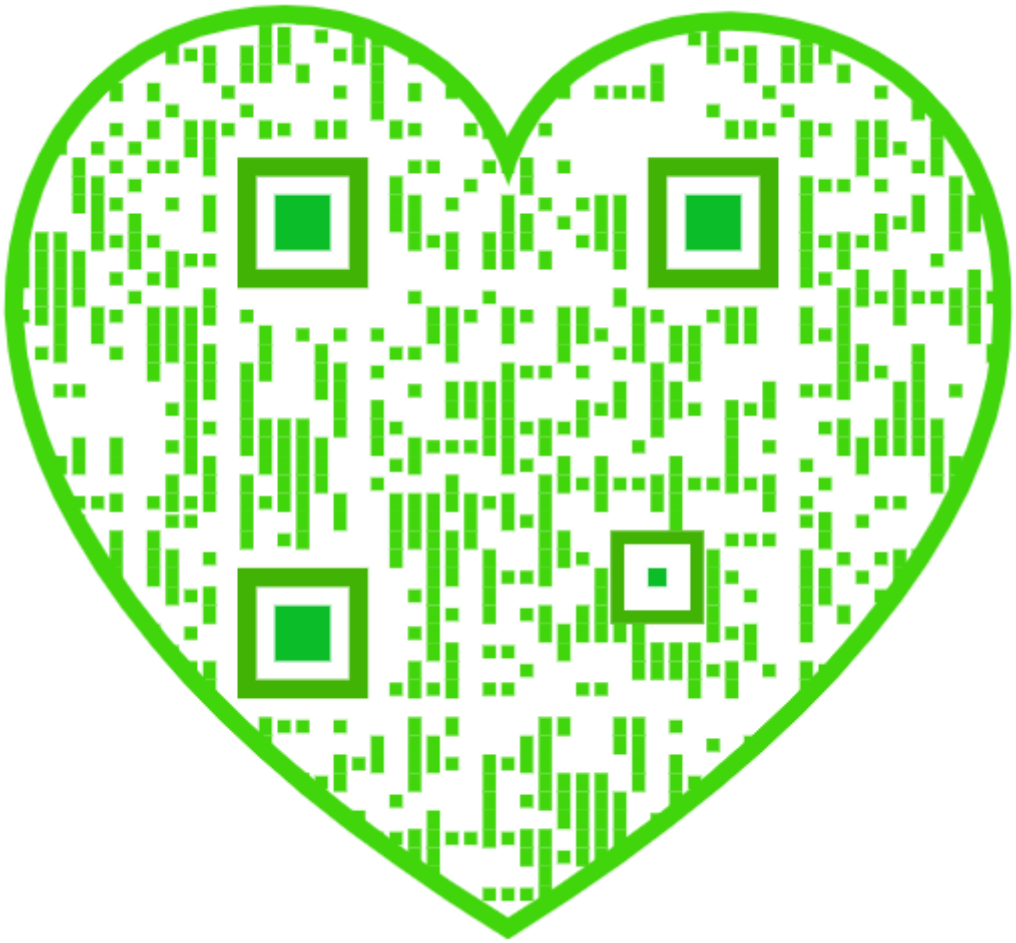

Class SF263

Book .S5

HOW TEACHERS MAY USE FARMERS' BULLETIN 876, MAKING BUTTER ON THE FARM

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UNITED STATES DEPARTMENT OF AGRICULTURE
DEPARTMENT CIRCULAR 69

Contribution from the States Relations Service
(Agricultural Instruction)
A. C. TRUE, Director

Washington, D. C. September, 1919

WASHINGTON : GOVERNMENT PRINTING OFFICE : 1919

IF THE TEACHING OF AGRICULTURE and related subjects is to have any permanent influence upon community life and practice, it must have vital connection with the daily experiences of the pupils and must utilize the latest and best information available. The teacher must so organize the available subject matter that it will touch closely the pupil's life and experiences.

In order to give the teacher some material assistance along these lines, leaflets indicating how teachers may make use of information contained in publications of the United States Department of Agriculture have been prepared, and it is hoped that they may help to improve instruction in agriculture and kindred subjects in the schools and directly connect it with community interests.

The leaflets are designed especially for teachers in elementary schools, but in many cases will be suggestive and helpful to teachers in secondary schools, and in urban as well as rural schools, depending upon the subject matter and the interests of the community served by the schools.

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HOW TEACHERS MAY USE FARMERS' BULLETIN 876, MAKING BUTTER ON THE FARM.

Range of use.—All rural elementary schools.

Relation to course of study.—This bulletin may be adapted to the general course in elementary agriculture, more especially in the subject of dairying and dairy products. It will also be suitable for work in home economics and will suggest correlations in other school subjects.

Illustrative material.—If possible, bring to school shallow pans and deep pans and consult the local dealers in separators for a loan or a demonstration at the school of one of their separators to illustrate the two methods of cream separation. Perhaps a separator may be borrowed from one of the homes in the district. The different kinds of churns and other buttermaking equipment may be borrowed in the same manner. Butter molds, paper for wrapping the package, and cartons may also be brought to the school. Pictures of the above-mentioned equipment may be clipped from farm papers, catalogues, etc., and mounted to use in place of the real equipment in case some of it can not be secured.

Topics for study.—I. Extent of farm buttermaking (p. 3.)

II. Quality and preparation of the cream (pp. 3–10): (1) The first essential for good butter. (2) Why not churn whole milk? (3) Methods of separating cream—(*a*) Gravity separation, such as shallow-pan, deep-setting, and water-dilution practice. Discuss each and state advantages and disadvantages. (*b*) Centrifugal separation—location of separator, setting up, and operation. When will it not work properly? Importance of daily thorough cleaning. (4) Proper richness of the cream. (5) Cooling the cream, importance and methods. (6) Ripening the cream: Relation of temperature to ripening, result of overripe cream, how cream is soured, cause of poorly flavored butter, and relation of temperature to growth of bacteria. (7) Starters: What is a starter? Where used with best results? How to make a homemade starter, and how to propagate the starter.

III. The process of churning (pp. 10–14): (1) The proper temperature. Upon what does this temperature depend? Results of a low temperature. Results of too high temperature—(*a*) Loss of butterfat in the buttermilk. (*b*) Injury to the quality of the butter by too much buttermilk in the butter, "leaky" butter with too much moisture, and a weak, salvy body. (2) Preparing the churn—how? (3) Pouring the cream into the churn. How done and how much? (4) Adding butter color, churning, when done. (5) Difficult churning—causes (pp. 18, 19).

IV. Washing, salting, and working the butter (pp. 14–17): Object of washing, how done. Preparing the butter worker, amount

of salt to be used, necessity of proper working, results of overworked butter, and results of underworked butter.

V. Butter packages (p. 17): (1) For home use. Objections to glazed crocks. (2) For market. The 1-pound print. Advantages. How made? The wrapping, the carton, care after being put into package, and care of the churning utensils.

VI. Equipment for farm buttermaking (p. 20): Discuss each utensil enumerated. How does this list compare with the average farm equipment for buttermaking?

VII. Summary of the steps in buttermaking (pp. 22–23):

Practical exercises.—The lessons in home buttermaking should lead eventually to home practice in buttermaking. A buttermaking demonstration should be arranged at the school with the assistance of the county demonstrator. In this demonstration the various steps in the process should be shown and explained. The pupils should then follow out the process at home, and make reports on it.

The relative efficiency of the shallow-pan and deep-setting methods of cream separation can be shown by using the same quantities of milk in a small shallow pan and in a tall straight jar. A half-gallon fruit jar will serve very well. In case separators are found at the homes of some of the pupils reports on their use can be made.

Discussions about the various kinds of churns in the district and their relative importance will prove profitable.

A study of the various methods of preparing butter packages should be made.

If possible, make a field trip to a dairy farm where butter is made or to a creamery to study the methods of making and handling butter. Note carefully the methods used in keeping utensils clean and in a sanitary condition.

Correlations.—The class in homemaking may profitably discuss buttermaking and the uses of butter in cookery.

Language: The language class may be required to make written reports on field trips, methods of buttermaking, and how to operate a separator. A booklet on buttermaking, illustrated and carefully bound, may be prepared covering essentially the topics included in these lessons.

Geography: Locate the buttermaking sections of the United States; of your State. On a county map locate the creameries, and dairy herds. Where are the markets for the butter produced in the district?

Arithmetic: If a cow produces 500 pounds of milk per month, churning 4½ per cent butter, what will be the profit when butter sells at 50 cents per pound and cost of feed and pasture is $7.50 per month, allowing $5 for the value of the skim milk and buttermilk?

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